

We claim:

1. Method of inhibiting the transition of free HIV virus carrying an envelope glycoprotein gpl20/gpl60 through the cellular mucosal barrier of an organism, characterized in that said glycoprotein is blocked by increasing in the region of said mucosal barrier the concentration of a compound comprising an oligomannosyl glycan residue and/or of a compound comprising a mimic molecule of an oligomannosyl glycan residue, wherein the link of said glycoprotein to said HIV virus remains essentially unaffected.  
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2. Method of claim 1, characterized in that the increase of the concentration of said compound in said barrier is effected by local administration of said compound to said barrier.  
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3. Method of claim 1, characterized in that the increase of the concentration of said compound in said barrier is effected by stimulation of the  $\beta$ -adrenergic system within the said organism.  
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4. Method of claim 1, characterized in that the increase of the concentration of said compound in said barrier is effected by inhibition of the endogenic processing of glycans.  
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5. Method of any of the claims 1 to 4, characterized in that the compound is selected from the group consisting of "N-glycans, mannan, high-mannose type glycans, hybrid-type glycans, complex-type glycans,  $\alpha$ -methylmannopyranosid, mucine, yeasts, beer yeasts, extracts of Aloe vera, and mixtures and/or derivatives thereof", wherein the mannose residues of said compound are essentially non-sulphated.

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6. Method of claim 1 characterized in that the transition of said HIV virus through an epithelial cell barrier is inhibited.

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7. A pharmaceutical composition capable of inhibiting the transition of free HIV virus carrying an envelope glycoprotein gp120/gp160 through the mucosal barrier of an organism, characterized in that it contains at least one compound comprising an oligomannosyl glycan residue and/or at least one compound comprising a mimic molecule of an oligomannosyl glycan residue for blocking said glycoprotein, wherein the link of the said glycoprotein to said HIV virus remains essentially unaffected.

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8. The pharmaceutical composition of claim 7, characterized in that it is prepared for local application of said composition to an epithelial tissue of said organism.

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9. A pharmaceutical composition capable of inhibiting the transition of free HIV virus carrying an envelope glycoprotein gp120/160 through the mucosal barrier of an organism, characterized in that it contains at least one inhibitor of the endogenic processing of glycans.

10. The pharmaceutical composition of claim 7, characterized in that the compound is selected from the group consisting of "N-glycans, mannan, high-mannose type glycans, hybrid-type glycans, complex-type glycans,  $\alpha$ -methyldmannopyranosid, mucine yeasts, beer yeast, extracts of Aloe vera, and mixtures and/or derivatives thereof", wherein the mannose residues of said compound are essentially non-sulphated.

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11. The pharmaceutical composition of claim 9, characterized in that it contains an inhibitor selected from the group consisting of "desoxymannojirimycin, swainsonine, desoxynojirimycin, and mixtures thereof".

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12. The pharmaceutical composition of any of the claims 7 to 11, characterized in that it further contains a pyrimidine nucleoside analogue capable of inhibiting reverse transcriptase.

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13. The pharmaceutical composition of claim 12, characterized in that it further contains 3'-Azido-3'-desoxythymidin.

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14. Method for preventing an infection of an organism with free HIV virus carrying an envelope glycoprotein gpl20/gpl60 characterized in that a compound comprising an oligomannosyl glycan residue and/or  
10 a compound comprising a mimic molecule of an oligomannosyl glycan is administered locally to epithelial tissues of said organism, wherein said glycoprotein is blocked by said compound and wherein the link of said glycoprotein to said HIV  
15 virus remains essentially unaffected.

15. Method for preventing an infection of an organism with free HIV virus carrying an envelope glycoprotein gpl20/gpl60, characterized in that an increase of the concentration of a compound  
20 comprising an oligomannosyl glycan residue in said barrier is effected by stimulation of the  $\beta$ -adrenergic system within the said organism.

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16. Method for preventing an infection of an organism with free HIV virus carrying an envelope glycoprotein gpl20/gpl60, characterized in that an increase of the concentration of a compound  
30 comprising an oligomannosyl glycan residue in said barrier is effected by inhibition of the endogenic processing of glycans.

17. Method of claim 14, characterized in that the compound is selected from the group consisting of  
5 "N-glycans, mannan, high-mannose type glycans, hybrid-type glycans, complex-type glycans,  $\alpha$ -methyldmannopyranosid, mucine, yeasts, beer yeast, extracts of Aloe vera, and mixtures and/or derivatives thereof", wherein the mannose residues  
10 of said compound are essentially non-sulphated.
18. Method of claim 16 characterized in that said inhibition is effected by administration of  
15 desoxymannojirimycin.
19. Method for treating an organism infected with HIV virus carrying an envelope glycoprotein gp120/  
20 gp160 characterized in that a compound comprising an oligomannosyl glycan residue and/or a compound comprising a mimic molecule of an oligomannosyl glycan residue is administered to said organism, wherein said glycoprotein is blocked by said compound and wherein the link of said glycoprotein to  
25 said HIV virus remains essentially unaffected, and that a pyrimidine nucleoside analogue capable of inhibiting reverse transcriptase is administered to said organism, wherein the administration of  
30 said compound and of said nucleoside analogue is performed simultaneously or sequentially alternating.

20. Method of claim 19, characterized in that said  
compound is selected from the group consisting of  
"N-glycans, mannan, high-mannose type glycans,  
5 hybrid-type glycans, complex-type glycans,  
 $\alpha$ -methylnannopyranosid, mucine, yeasts, beer  
yeast, extracts of Aloe vera, and mixtures and/or  
derivatives thereof", wherein the mannose residues  
of said compound are essentially non-sulphated,  
10 and that said nucleoside analogue is 3'-Azido-3'-  
desoxythymidin.

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